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Mikko Lasso

PARADOX OF ESCALATION

– bidding-fee auctions

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TURKU UNIVERSITY OF
APPLIED SCIENCES

BACHELOR'S THESIS | ABSTRACT

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PARADOX OF ESCALATION

bidding-fee auctions

In his 1971 study, Dr Martin Shubik, Seymour Knox Professor Emeritus of Mathematical Institutional Economics at Yale University introduces: "an extremely simple, highly amusing, and instructive parlor game which can be played at any party by arranging the auction of a dollar." Dr. Shubik lectured the Nato Scientific committee in London 1964 about the game. The paradox of escalation auction method teaches a simple escalation, that Dr Shubik compares to military escalations between nations. On a global scale, the inter-nation tensions and escalations have significantly increased in recent times. The escalation is the most visible and loudest between president Trump and the dictator of North Korea. 2017 August - "Tension rises in war of words with US over North Korean threat to fire ballistic missiles near US Pacific territory of Guam". Dr Shubik's dollar auction game was converted into computerized format in the beginning of the 20th century, however the method was digitized incorrectly and important commonsense auction initiation criteria was overlooked. I have successfully fixed and updated the digital version of the dollar auction game, and I have confirmed my discoveries by interviewing Dr. Shubik on May 16th, 2016. I have applied for patents to my new useful discoveries, and I have already received an Ex Parte Quayle Office Action granted by The United States Patent and Trademark Office, USPTO.

KEYWORDS:

dollar auction, Dr Martin Shubik, paradox of escalation, prefunding algorithm, formal precommitment mechanism, patent claims, Ex Parte Quayle

CONTENT

1 PICTURES

1 INTRODUCTION

This is my 48 year update to Shubik's institutional mathematics. In his 1971 study, The Dollar Auction game A Paradox in Escalation and Noncooperative Behavior (Shubik, 1971, 110-113): Dr. Martin Shubik, Seymour Knox Professor Emeritus of Mathematical Institutional Economics at Yale University, introduces: “an extremely simple, highly amusing, and instructive parlor game which can be played at any party by arranging the auction of a dollar.” The dollar auction is a non-zero sum sequential game that illustrates a paradox brought about by traditional rational choice theory in which players with perfect information in the game are compelled to make an ultimately irrational decision based completely on a sequence of apparently rational choices made throughout the game. In this auction, bidding would naturally progress to EUR 0.99c where the value of the prize is still more than the auction price but at this point, to save a EUR 0.98c loss, the 2nd place bidder goes ahead and bids EUR 1.00 to break even. At this point the bidder who was at EUR 0.99 can minimize his loss to EUR 0.01 by bidding again at EUR 1.01. This cycle continues with both players wanting to minimize their losses. The sites auction new items, often for a fraction of their retail price, and bidders pay up to EUR 1.50 for each bid. Unlike eBay, where you can bid for free, users have to pay between EUR 0,40 and EUR 1.50 to place a bid. Bids automatically rise by 1 EUR at a time, and some people make repeated bids. The last person to bid gets the item, for however much it is worth after what can be hours of monitoring. Consider a MacBook Pro listing at a suggested retail price of EUR 1,799. Let us look at what the bidding fee does. For each bid, the price of the computer goes up by a 0,40 Euro, and the operator collects 1 Euro. To get up to EUR 1.200, it takes 3.000 bids and operator gets its fee for each. That means that before selling this computer, the operator took in EUR 3.000 in bidding fees. It can order the computer for about EUR 1.500 and thus make a profit of 1.500 on the computer. The model is a legitimate license to print money, when applied in a transparent and honest manner. This means no bidding bots or so-called shills are used. Shills, or "fake robot bidders", are always employed in current bidding-fee auctions. Driving prices up with phony bids, they seek to provoke a bidding war among other participants. My advantage over my competitors is that I do not use robots, I have a Facebook-approved app for interacting with our clients and we use Google and Facebook verification. Bidding-fee-auction method should be not confused with Ebay and Catawiki, which are highest offer or English type

of auction systems, where bidders make a maximum offer, of how much they are willing to pay for the item and then wait seven days to find out if a higher offer was made. The issue with English auctions are that they are too slow paced for the modern internet user.

The Internet is no longer just an information delivery medium. The Internet is now considered as one of the biggest market place for sales of goods and services. Online market place such as Amazon.com offers retail shop like experience to its users to purchase various items including books, electronics and even foods. Online auction is another venue in the online shopping industry. For example, eBay.com allows its users to sell and purchase all kinds of goods and services in one of its auction formats.

Recently, online bidding fee-based auction system (e.g., penny-auction) has been introduced, offering different type of shopping experience to the users. The fee-based auction system works different from the conventional online auction system. Unlike the conventional auction system where a user is free to bid or raise the bidding amount on the item, the user in the fee-based auction system is required to purchase a bid credit in order to place a bid on the item. In other words, the user needs to pay a fee to bid on the item. Each time the user bid on the item, the price of the item is raised by a certain amount (e.g., 1 cent) and often resets a timer by certain time (e.g., 10 seconds) for open bidding. When the timer runs out, the last bidder wins the item at the final price, which is often substantially lower than the item's retail price.

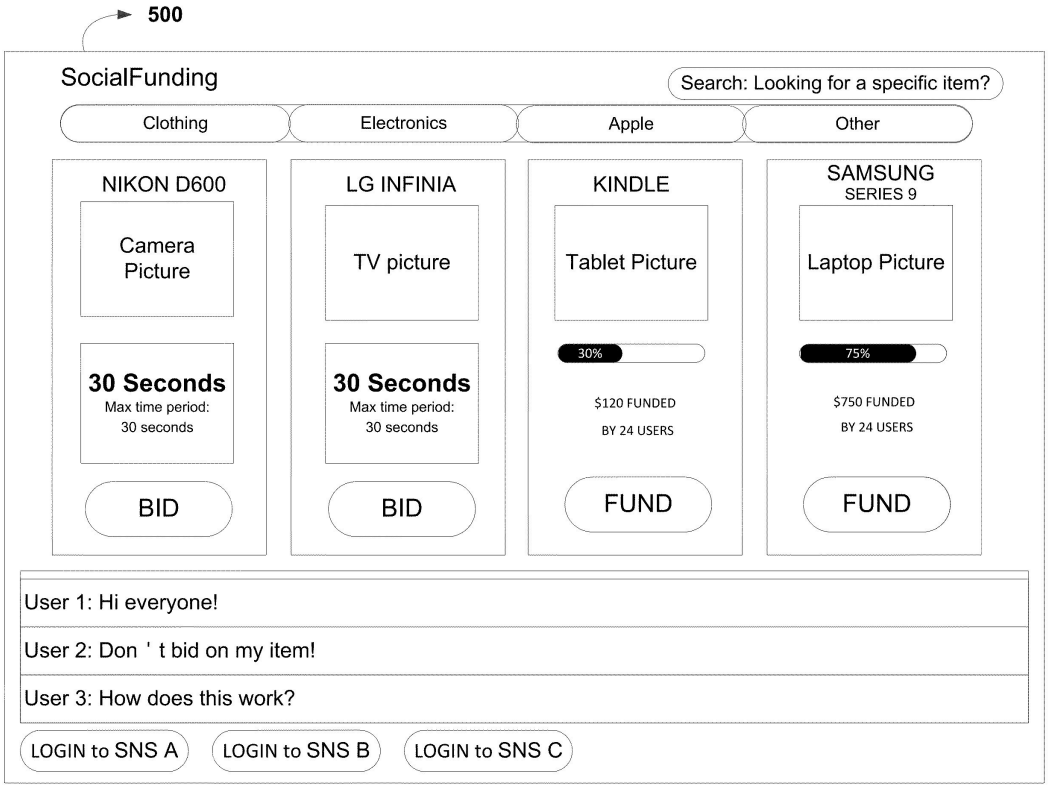
The main problem in a typical fee-based auction is the lack of transparency during the auction process. Because the timer renews every time a bid is placed on the item to extend the duration of auction and the fact that the bid credit seller (i.e., the auction operator) gains profit by selling additional bid credits to the users, the auction site operator is often questioned for artificially extending the auction by outbidding the bid placed by a legitimate user and/or shill bidding to drive up the final price of the item. On the other hand, a group of users can manipulate the bidding process by allowing one user to bid on certain item while another user bids on other item, thereby causing significant financial loss to the auction operator.

The game was digitized for the first time in 2007 by Finnish company Fiksuhuuto and German company Swoopo. These early digitization efforts overlooked a commonsense auction initiation criteria that even Martin Shubik forgot or ignored to mention on his

1971 study. Therefore, the auction method has been incomplete for decades, as the informal precommitment mechanism was widely accepted by the bidding industry. Dr Shubik's original precommitment mechanism has been incomplete and crucial information has been ignored for years. The informal precommitment mechanism, does not take into account the count of users who have shown interest and precommitted for a particular auction item. Therefore, the currently running systems use bots and shills to make sure there is not only one precommitted bidder, who would obviously win the auction with one bid, and cause significant financial loss to the auction operator. There are front-end innovations and back-end innovations that are required to update the game to be compatible with social media. These requirements are broken down into further details in the following chapters.

2 REQUIREMENTS

The software form of the bidding-fee-auction method has a set of requirements that are necessary to operate the business successfully in the age of social media (Picture 1). These include a new set of updated requirements, that are necessary to make the game compatible with social media and most up-to-date web technologies. To make the bidding process compatible with social media authentication, frontend and backend modifications are necessary.



Picture 1: Prefunded bidding-fee-auction

2.1 Frontend Requirements and Improvements

There are huge problems and lack of transparency with the currently running bidding systems. Outbidding the paid customers with fake user accounts is the accepted norm of the current industry.

Our update is that 3rd party such as Facebook and Google handles all bidder session authentications, as visible in picture 1. The auction operator will also verify each users banking information by requiring a nominal shipping fee before shipping auction wins, i.e. precommitment requirement.

So bidders needs to authenticate themselves through their Facebook and/or Google accounts. This way bidders can be sure they are always competing against other Google and Facebook accounts, and never against shills or fake user accounts created by the auction operator.

I do not want to limit which 3rd party network user authentication method is used, however generally, I want to provide a bidding system to all networks, including Twitter, Instagram, Whatapp, Wechat and others.

Another major update especially visible to the end user, is the full integration of bidding achievements with (Chou, 2015) Octalysis The Complete gaminification framework.

“Gamification is design that places the most emphasis on human motivation in the process. In essence, it is Human-Focused Design (as opposed to “function-focused design”).”

The Octalysis framework breaks down the games humans play throughout their lives into two brain hemispheres (Picture 2). With the right brain core drives representing creativity, self-expression, and social aspects, and the left brain core drives: logic, calculations, and ownership.

The dollar auction games unique countdown timer element represents the scarcity on Octalysis, and the winning of an auction is an Accomplishment. The act of bidding itself and the paradox of escalation is based on Social pressure, a right brain core drive, where the appearance of being amongst the losing bidders visible to your Facebook friends, is something that a bidder would like to refrain from, Avoidance, at all costs.

Ownership, a left brain core drive, is linked to bidders filling up their bidding profiles in their entirety. For example, rewarding users for linking up all of their social media accounts to their bidding account is behavior that is rewarded and encouraged. Complete bidders profiles are a signal of commitment and ownership.

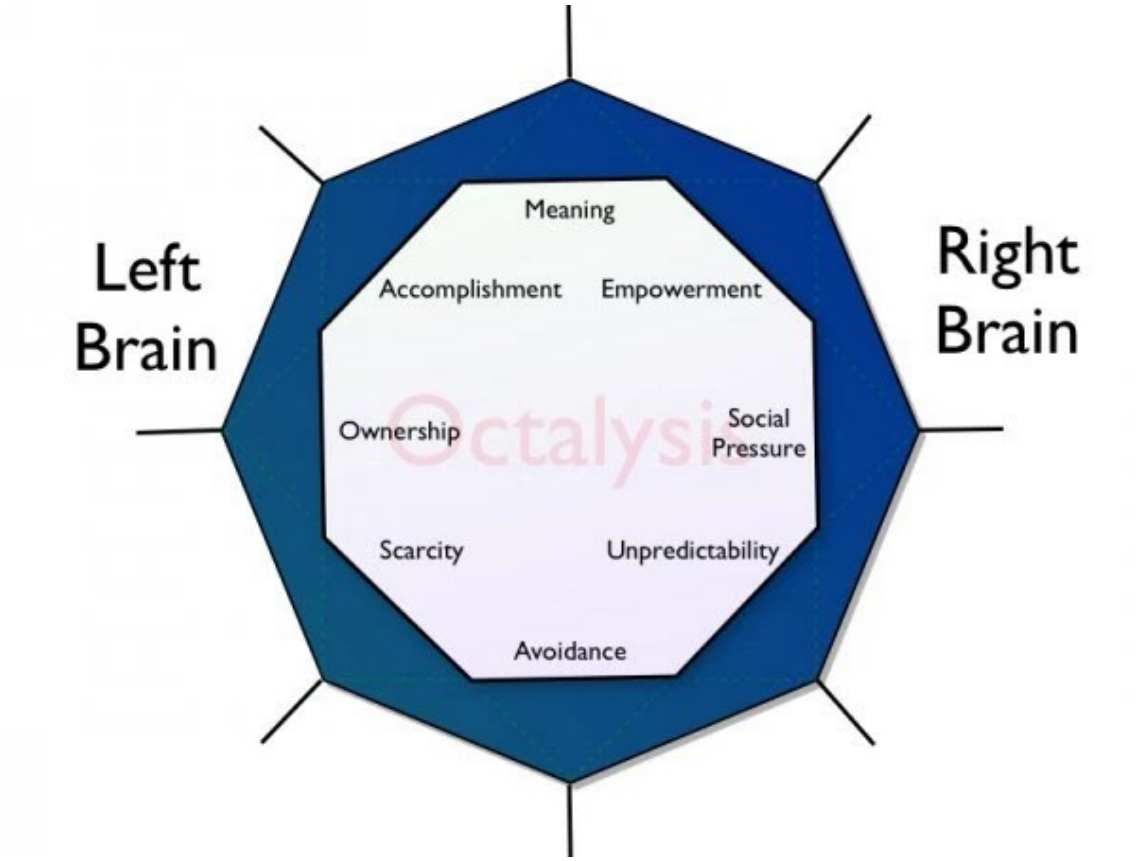
The empowerment, a right brain core drive, are linked to the bidding achievements and bidding battle victories, strategies, and bidding combinations. For example, placing multiple bids within a specific time limit, 5 bids within 10 seconds, can be considered aggressive or empowering bidding.

Dr Chou further separates the right and left brain cores drives into white and black hat gamifications, where the left brain core drives express:

“If something is engaging because it lets you express your creativity, makes you feel successful through skill mastery, and gives you a higher sense of meaning, it makes users feel very good and powerful.”

and the right brain core drives:

“On the other hand, if you are always doing something because you don’t know what will happen next, you are constantly in fear of losing something, or because there are things you can’t have, even though you would still be extremely motivated to take the actions, it often can leave a bad taste in your mouth.”



Picture 2: Octalysis framework

There are many famous bidders who have build a reputation over the years of their bidding careers. One such well recognized bidder is NotGonnaStop. NotGonnaStop has a reputation amongst the bidding community and his bidding name is there to raise fear amongst any bidder willing to challenge whether NotGonnaStop stops bidding or not.

Based on the research provided by our bidders, we have learned that the bidding industry calls for a yet again a new type of auction state, known as the Dutch state. When an auction item is set to Dutch state, the auction operator withdraws all claims from the auction, and once the countdown reaches below 10seconds it will be never raised above 10 seconds. The Dutch auction state is the high-activity or high-engagement auction state and the software can be build to promote the Dutch auctions via pay pay click advertising campaigns inside Google and Facebook. The fast paced short timer Dutch auctions are really what the bidding public is mostly waiting for.

The frontend needs to be also customized by location, so that i.e. Portuguese internet users can safely bid in their own language and currency. The frontend is best localized by language and currency so that all world languages are equally presented.

A chat application will also be provided for the bidding application users. This chat can be enhanced further into separated item specific chat rooms, and broken down into further specifications depending upon users classification on the system. The chat application is another good tool for creating the new sense of balance and openness of the bidding system.

The automated bidding tool may be configured by the users to bid on the item at a specified time (e.g., 1 second) prior to the expiration of the timer if the user is not the last bidder in the auction. Or the automated bidding tool can be configured to place a maximum number of bids, and be set to start after a specified time period has expired or a certain state of auction has been reached. However, the seller of the item or the auction system administrator may disallow using such automated bidding tool on certain items.

The payment system integrations will also play a huge role in the overall success of the project. I have completed an underwriting authorization process with Facebook payment systems, which I can be seamlessly integrated with the platform, even so that users are able to purchase and refill their bidding accounts with bids without leaving

Facebook. Also the bidding platform should accept Bitcoins and other types of crypto currency as a source of payments for bids. Blockchain and Bitcoin enthusiasts are the most active in social media and many of them are always researching for newest web-technologies.

There are also significant improvements in the animating the gamification aspects of the bidding method. HTML5 and Cascading Style Sheets libraries have improved significantly over the years and the animating the frontend appropriately will provide a fresh new experience and look for this authentic and exciting bidding method. CSS3 animation elements should be used to animate and enlighten the user experience.

Bootstrap grid list items and cards and can be used to represent the bidding items placed in the application index page. Bootstrap grid also provides a grid list item order tag that can be used to prioritize Dutch mode auctions over other auctions. New bidding items that will replace the already finnished auctions do not necessarily need high priority over others as there are backend requirements keeping the newly listed bidding auctions from distraction any high priority bidding auctions. Random rewards game achievements can be used to increase bidders motivation in becoming the first bidder in the first place.

The sorting, filtering, and searching for bidding auction items should not require a complete refreshing of the web page, therefore modern JavaScript preprocessors such as React should be used to assist updating the clients bidding views without interruptions. React library also comes with Redux: an object or property state management libraries. Bidding item states can be stored into Redux which in turn tells React to render a new Dom for the browser when a bidding item state is changed.

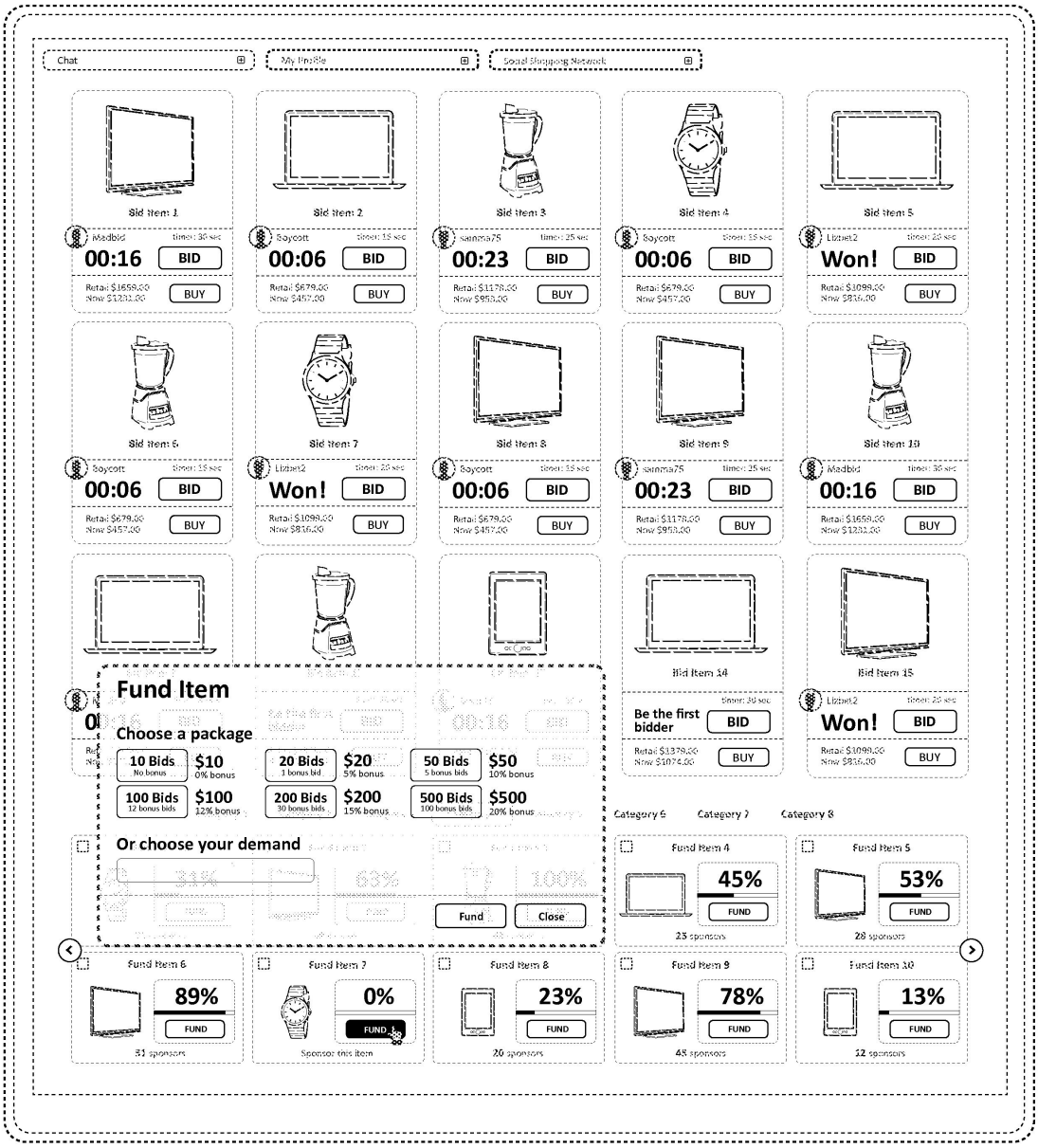
2.2 Backend Requirements

A system and method for implementing an online bidding-fee-based auction system is disclosed herein (Filppula 2012). The online bidding-fee-based auction system (referred hereinafter as the “auction system”) of the present disclosure employs the pre-funding requirement configuration (Picture 3), in which each of the listed item has a predetermined pre-funding requirement amount that must be satisfied to become a live auction item eligible for bidding. The item's pre-funding requirement amount can be

satisfied by receiving a sufficient amount of funds from the users. For funding any of the listed items, the user receives a number of bid credits to be used for placing bids on any of the live auction items. An adjustable countdown timer is associated with the live auction item, and the users are allowed to bid on the live auction item before the timer runs out. However, the remaining time of the countdown timer may reset to the default value or otherwise be adjusted when with each bid placed on the item.

The auction system may further include a number of additional auction management features to optimize the sales transaction via the auction system while preventing, or at least substantially eliminating, the possible artificial manipulation of the auction by the buyers, sellers and the auction system administrator. Such auction management features may include, but are not limited to, one or more of countdown timer management features, user verification features, user classification or level management features, as well as auction control items, which are described in further detail below. For instance, the countdown timer may be configured to incrementally run at faster paced each time when the timer resets to the default value preset for the countdown timer. Also, the auction system may be integrated with third-party social network sites, applications and platforms, and/or the auction system may include an internal social networking platform that can be used in checking a user's eligibility for bidding on another user's item. Moreover, the auction system may employ a user account classification/user account level system, in which the users belonging to certain classes or achieving certain levels are provided with certain privileges or a special set of auction controlling features to tweak some elements of the auction in their favor. Various other features and mechanisms may be included in various embodiments of the auction system to provide more transparent and balanced fee-based auction system for all participants (i.e., sellers, buyers and the auction system administrator).

The complete listing of back-end patent claims are provided on a separate attachment.



Picture 3: Prefunding Algorithm

3 RELATED MEDIA EVENTS HEADING

Date:	Related Media Event
March 27, 2012	U.S. priority patent application
October 5, 2014	TurkuAMK ”paradox of escalation” bidding event with 140 participants.
May 16, 2016	Email interview with Dr. Martin Shubik
December 15, 2016	Patent Granted. Ex Party Quayle Office action.
March 15, 2017	Simo Häyhä Hollywood movie announcement Finland, March 15th 2017.
July 7, 2017	7.7.2017 Finnish Film Foundation meets in Simolankatu regarding Simo Häyhä movie.
July 26, 2017	Multiple fires burn across Finland including Turku. Finnish police suspects the fires were started intentionally.
July 27, 2017	President Vladimir Putin visits Finland
August 18, 2017	First terror attack in Finland's history in the city of Turku.
August, 2017	Tension rises in war of words with US over North Korean threat to fire ballistic missiles near US Pacific territory of Guam.

Table 1: Related Media Events Timetable

4 CLOSING CHAPTER

It has been ignored and wiped away from commonsense and human consensus that in order to keep the bidding between human beings, and not “robots”, the auction operator needs to be sure that there are atleast two humans present. The 3rd party user authentication network used to apply on the method is not dependent upon whether this commonsense requirement is really required, it is required at all times. It is safe to conclude that the “two or more bidders” auction initiation criteria always applies, and it is not dependent on the medium the bidding service is provided with. This improvement is purely technical and it is modification across multiple OSI networking layers. The user authentication is handled by the sessions layer and the backed of the software is naturally the application layer, the presentation layer represents the frontend and user interface. It is specifically the application layer that needs to be aware that two or more client sessions are open before it makes sense to initiate the bidding. The backend also needs to be make sure that the two client sessions should also have “bids” aka. “bidding opportunities on their accounts.

I am currently developing a new second generation of the prefunded-bidding-fee-auction method software. The new software will be built using the best practices and guidelines provided by Google and Facebook and built mainly with mobile first approach.

During its lifetime the software has generated media attention organically(Arcticstartup 2016). I.E. the bidding software was recently recognized the Red Herring Top Europe 100 2018 award and I have been invited to demo and present the application in Amsterdam April 15th 2018. Some of the previous year victories and awards the bidding application has achieved can be found on further references (Adweek 2015).

Our bidding software has generated tens of thousands of users naturally. Financing professionals estimate that 99.9% of new applications fail mainly because the application is not really needed by the market. Google, Apple and Facebook app stores are filled with millions of applications and there are only a limited number of apps that customers really need or want to use. The app industry as a whole has experienced recent changes where internet users do not install new apps any longer for

entertainment purposes, but rather stick with the basic useful apps provided to them by default.

The future for the new generation of bidding-fee-auction applications is still on hold. There are general business procedures that needs to be completed before the new generation can really fly and takeover the existing bidding methods. I have made significant progress recently in organizing and getting the deal package together. Corporate financing can be overwhelmingly complex and bureaucratic.

I see a huge growth potential provided by the new blockchain technology. Especially the initial coin offerings that are becoming more popular every year. Industry experts are expecting for the United States government to accept the ICOs 2018, Initial coin offerings, to become a perfectly legal and valid method for corporations to raise their funding demands. It is very exciting to see when Dr Martin Shubik's 1971 coin-toss game will become widely accepted as a perfectly valid auction business model once again. Anyways thank you for your attention, it was a pleasure to get to tell you about my 47 update for Dr Martin Shubik's institutional mathematics.

Sincerely,

Mikko Lasso Filppula

Maastricht Netherlands

March 8th, 2018

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Appendix 1

Lasso, M., May 2016. Interview with Dr Martin Shubik, 1 page.

Lasso, M., December 2012. Listing of Patent Claims, 2 pages.

Lasso, M., August 2014. Bidder Avatars Galleries, 5 pages.

Interview with Dr. Martin Shubik

The following personal interview was conducted via email on May 16th, 2016. Dr. Martin Shubik is the Seymour Knox Professor Emeritus of Mathematical Institutional Economics at Yale University

Miko: I have a question for you, regarding your 1971 Study The Dollar Auction Game. Did the "'Formal Precommitment Mechanism"' in 1971, need to know that there are atleast two 2 or more interested players/bidders present?

Dr. Shubik: “In some versions yes, in other versions no.. this would require a lanthy technical answer to go into the tedails”

Miko: My further question would be regarding the versions where only "'0 or 1 bidders"' are present, (that are not included in 2 or more.)

How do you run an auction with 0 to 1 players?

Dr. Shubik: “There are technical requirement in producing alogically consistent and complete mathematical model. These include the formal definition of what happens when you have 0 or 1 persons..the formal (and commonsensical) answer is that nothing happens”

The formal and commonsense answer in 1971 was that the auction was not initiated until at-least two or more precommitted players are present.

It is a great honor and pleasure to update Martin Shubik's original bidding method to the age of social media.

03:30

MikeGaukroger

BID

01:34

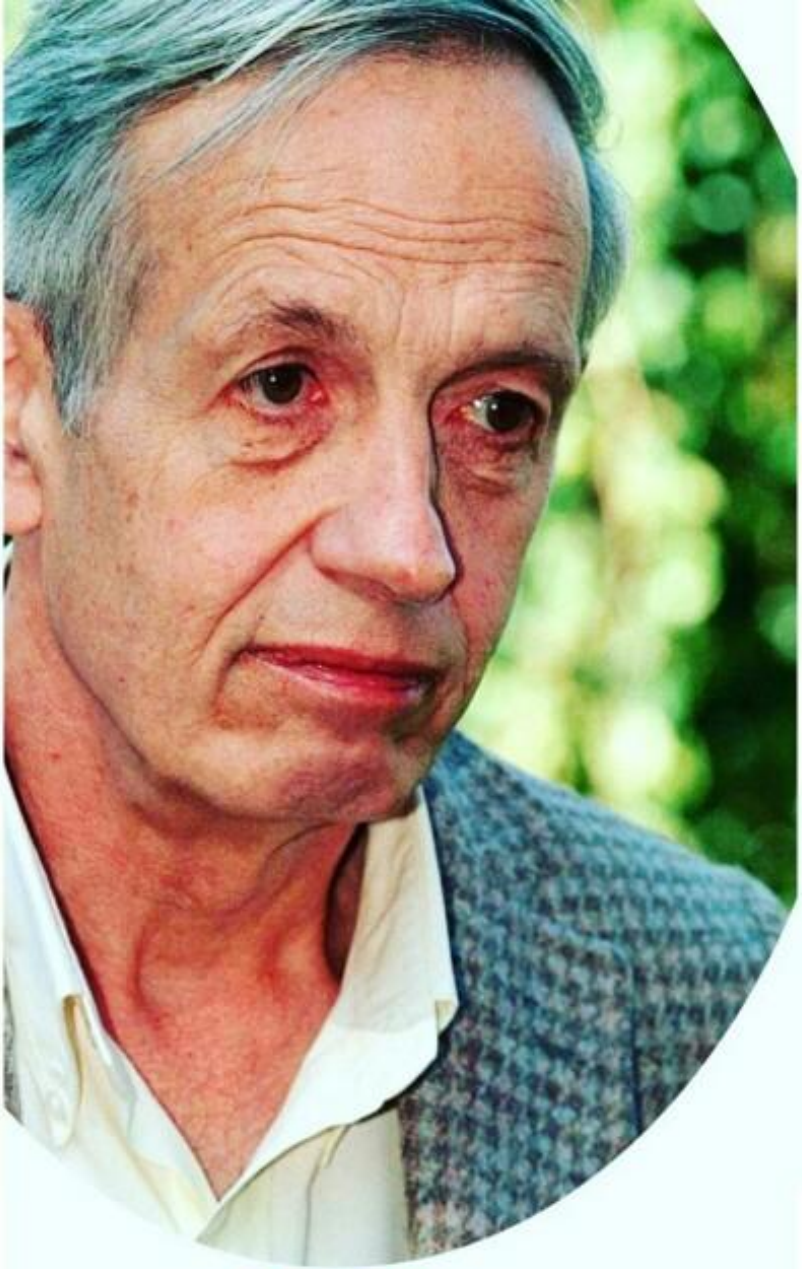
JäysSäbäl

BID

16:45

EeroAmunet

BID



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lokotochek

BID

01:22

08:58

MattiKari

BID

16:45

07:50

Cash

00:45

kevin

BID

00:52

01:31

panu

BID

Cash

03:40

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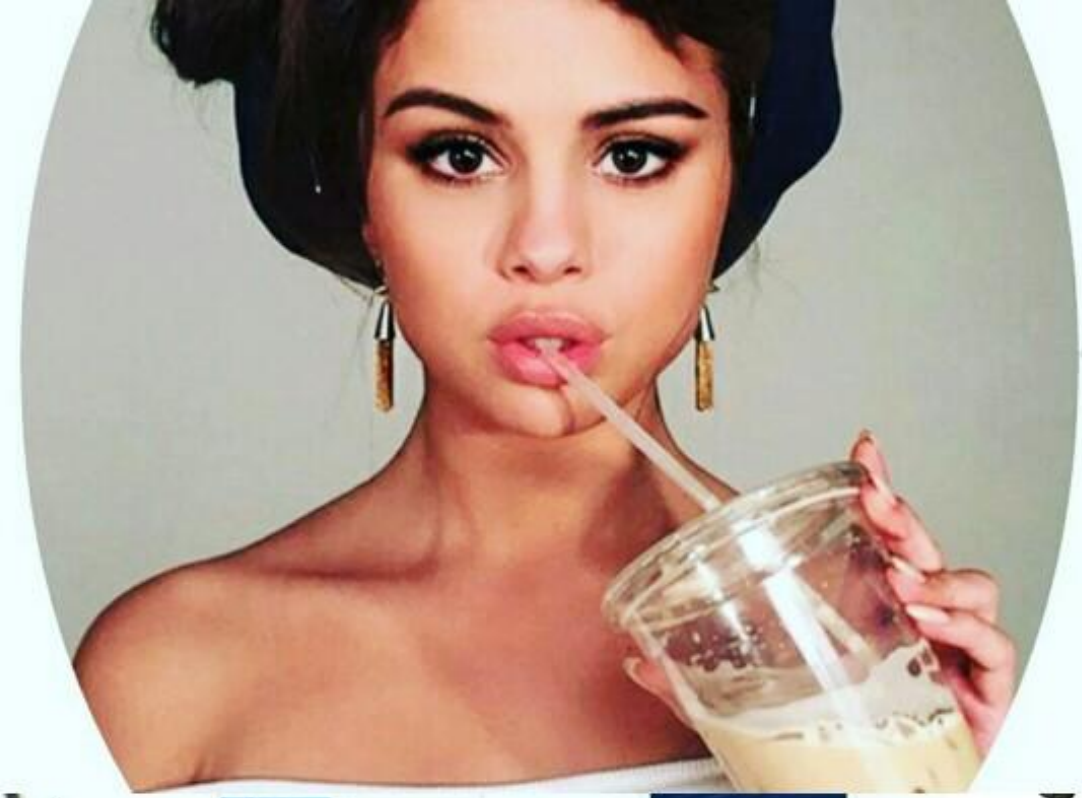

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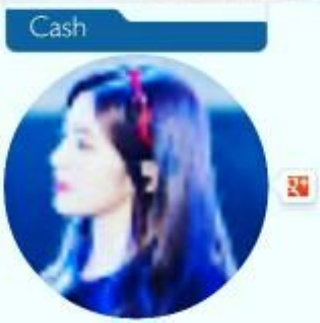

01:45

tianwangyuan125

BID

SUHD TV

Quantum dot

04:11

07:56

lisakalex

BID

Cash

00:20

nierajdcasanova

BID

02:51

flipacoin2014

BID

07:32

oz.iyer

BID

01:14

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kenar

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Buy now and get your bids back

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Buy now and get your bids back

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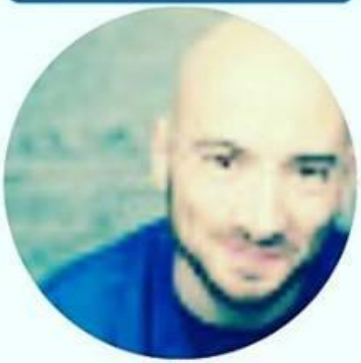

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05:53

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BID

04:49

rohitchangediya

BID

06:40

omar.crutchley

BID

Listing of patent claims 1 through 10

1. A method for facilitating a verified bidding-fee-based auction with formal precommitment mechanism, comprising:

granting the user access to the auction system if the user credentials are verified;

receiving one or more fund submissions from one or more users towards at least one item;

providing each of the users with a number of bid credits corresponding to the fund submission by the respective user;

initiating an auction of the item when one or more auction initiation criteria are satisfied for the item, wherein the auction is configured to end at an expiration of an adjustable countdown timer that adjusts its remaining time in response to receiving a bid on the item; and end the auction of the item when the adjustable countdown timer expires, with the user who placed the latest bid being the winner of the auction.

2. The method of claim 1, wherein the one or more auction initiation criteria comprises:

a threshold pre-funding requirement amount of the item;

a threshold number of fund submissions received from the users on the item;

a threshold number of users with fund submissions on the item;

a threshold time period for satisfying the threshold amount of the pre-funding requirement amount; and a predetermined hold period after reaching a threshold fund amount for the item.

3. The method of claim 2, wherein the remaining time of the adjustable countdown timer reverts to a predefined maximum time period in response to receiving a bid on the item.

4. The method of claim 3, wherein the predetermined time value is successively reduced when one or more predetermined timer reduction criteria are satisfied.

5. The method of claim 4, wherein the one or more predetermine timer reduction criteria comprises:

total number of bids placed on the item;

total number of bidders on the item; and

total duration of the auction from the initiation of the auction.

6. The method of claim 2, wherein the remaining time of the adjustable countdown timer is increased by a predetermined time value in response to receiving a bid on the item.7. The method of claim 2, wherein the adjustable timer is configured to expire based on one or more predefined external events.

8. The method of claim 1 further comprising generating a user account for each of the users,

wherein each of the user account is assigned with at least one user classification providing one or more of corresponding auction related features.

9. The method of claim 8, wherein the user classification assigned to the user account is determined based on one or more user classification factors comprising:

amount of personal information about the user provided by the user;

accuracy of personal information about the user provided by the user;

total number of third-party social network sites linked to the user account;

social networking activities performed by the user; and

transaction activities performed by the user.

10. The method of claim 9, wherein the one or more auction related features comprise:

a predetermined funding-to-bid-credit exchange rate corresponding the assigned user classification;

an ability to use automated bidding tool; and

an ability to use one or more auction modification tools allowed for the assigned user classification.